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OF
PERIPHERAL IRRITATION TO DISEASE;
CONSIDERED FROM A THERAPEUTIC STANDPOINT.

BY

SIMON BARUCH, M.D.,

PHYSICIAN TO MANHATTAN GENERAL HOSPITAL, AND TO THE
NEW YORK JUVENILE ASYLUM, ETC.



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**THE RELATION OF PERIPHERAL IRRITATION
TO DISEASE; CONSIDERED FROM A
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THE most important element in the discussion of this question is the influence of its decision upon our therapeutic procedures.

Whether peripheral irritations be etiological factors by reason of sympathetic effect, as was formerly taught, or, as a more refined pathology and more scientific inquiry into pathological processes claim to have ascertained, it be due to reflex agencies acting through the spinal cord, the chief aim of our therapeutic endeavors must be at the point of irritation. The removal of the source of peripheral irritation becomes imperative. If, on the other hand, as Dr. M. Allen Starr has correctly pointed out and as the general practitioner but too often has occasion to observe after much bootless attacking of peripheral disturbing causes by specialists, many so-called neuroses are really but the manifestations of a slight or serious defect of control by the higher

¹ Discussion at stated meeting of New York Academy of Medicine, May 1, 1890.



centres due to their impaired nutrition and consequent impaired activity, the course of the medical attendant must be clear.

Who shall decide these different problems which now more than ever press for solution?

The method of arranging a symposium on the great medical questions of the day must be of advantage. It brings out prominently the elements of each question as viewed from different stand-points, if the essayists are selected for the diversity as well as the honesty of their respective views.

It was a wise suggestion, too, of Dr. Jacobi to afford the general practitioner a hearing on the subject offered for discussion, for he stands, as it were, upon neutral ground, watching eagerly the friendly contests of his colleagues and co-laborers, the specialists, and appropriating the wheat as they sift it from the abundant chaff by the threshing of contending views.

Therapeutic questions have ever possessed a fascination for me. In the course of the past thirty years it has not infrequently been my privilege to observe the budding forth of plausible theories, to watch them as they developed into lusty plants, only to see them blighted when the clear light of strict clinical test beat upon them.

When the lamented Hack called the attention of the profession to the attractive theory of reflex neuroses traceable to the nose, I was, although he offered us such positive clinical illustrations, somewhat reluctant in recognizing the validity of his claim. Some of the arguments which were brought

1. Consisting on this subject of Dr. D. B. St. J. Roosa, M. A. Starr, A. Jacobi, Bev. Robinson, F. H. Bosworth, C. C. Lee, S. Baruch and M. L. Rhein.

cause of reflex troubles of diverse and utterly incompatible characters confirmed the therapeutic scepticism which is the natural outgrowth of advancing years, and the doubts thus aroused were somewhat strengthened by the enthusiasm of the author. But a case presented itself shortly after reading Hack's original pamphlet which enlisted my interest. A man aged twenty-four years was brought to me by Dr. L. Peiser, with the following history :

He had been complaining for one year of a "sticking pain on the right side of the neck" about the apex of the carotid triangle. This pain was so severe at times that it deprived him of sleep. He also suffered from a dry cough and, what annoyed him more, violent attacks of sneezing ten or twelve times in succession, recurring four or five times a day. His acquaintances twitted him because he "sneezed like a cat." His appearance was worn and dull. The right lower turbinated covering was cavernous and doughy, and touching the septum which presented numerous sensitive spots. The lower turbinated on the left side also touched the septum and was sensitive but not doughy. The uvula was elongated. Posterior rhinoscopy revealed spongy hypertrophies on the lower turbinated. The right anterior turbinated swelling was thoroughly cauterized with the galvano-caustic point, under cocaine. Ten days later he claimed an improvement; two sensitive spots on the septum were now cauterized. Six days later pains in the neck had disappeared. Cough continuing, a portion of the elongated uvula was cut off and the left lower turbinated was cauterized. After two more cauterizations of sensitive spots on the septum, his nasal

fossæ were clear and free. Sneezing, cough, and pain subsided.

The attacks of sneezing in this case were probably due to mechanical irritation, for, as Hack has shown, and as I have frequently observed, the "erectile" turbinated coverings are subject to enlargement and to diminution by mental and physical causes. The cough, too, was probably due to the elongated uvula. But the pain in the neck was probably reflex.

It is just as important to adopt local treatment, whether the peripheral irritation produces symptoms through mechanical or through reflex channels. But it is well to differentiate these conditions for the sake of scientific accuracy, as was done in this case. The first positive case which removed my scepticism on the reflex influence of nasal peripheral irritation is a cure of true epilepsy, the only one which has ever occurred under my observation :

A. K., aged sixteen years, a robust boy, had been suffering from distinct attacks of *grand mal* since the summer of 1884.

The free use of bromide, by my friend, the late Dr. Wm. Frothingham, diminished the number of attacks and finally gave immunity for one year. But they returned with greater frequency, and continued despite increased quantities of bromide. Dr. Frothingham having referred the case to me on April 1, 1886, it occurred to me that an enchondroma on the left side of the anterior portion of the septum, which filled the entire fossa in front, forcing the ala far beyond its normal line, might be a peripheral irritant bearing etiological relations to the

epilepsy. After failure with the galvano-cautery, as advised by Woakes, I removed the entire growth with a Bosworth saw. The bromides were continued until September, 1889. He had an attack a week after the operation, but since then he has been entirely exempt, although during the past seven months he has taken no bromides.

An immunity from attacks for four years may probably be regarded as a recovery from the disease. Similar cases are on record in recent literature, the most recent addition being six cases of epilepsy reported by Schneider.¹ These cases cured, after the failure of active bromide treatment, by removal of pathological conditions in the nose, furnish interesting reading to those who are sceptical regarding the influence of peripheral irritation in disease.

A disease like epilepsy, in the presence of which we stand almost helpless, demands the utmost scrutiny of search for possible etiological factors.

There are a sufficient number of cases recorded by reliable observers to warrant us in adding the nose to the field of possible points of reflex irritation. Empirical though such treatment may be and probably inexplicable upon strictly scientific principles, it behooves us to remove all pronounced abnormal conditions existing in the nose, *as an auxiliary therapeutic measure.*

With regard to asthma, migraine, trigeminal neuralgia, and minor nervous affections, the conditions are different.

The nose presents a field for thorough study of

¹ Berliner klin. Wochenschrift, October 28, 1889.

the question at issue, and it should be utilized to the fullest extent. Unlike the ovaries and urethra or other internal organs, we may subject it to tests which are impossible in these organs. It is not difficult to ascertain the presence of sensitive areas in the nose, even if the patient's attention has not been directed to them by actual symptoms. If irritation by the probe produces the paroxysm of migraine, asthma, or neuralgia, we have evidence that can be obtained from no other organ. And if in addition to this, we succeed in removing the attack, either artificially or spontaneously produced, by complete cocaine anæsthesia of the sensitive areas, the etiological connection is demonstrated beyond a doubt, and the treatment is clear. In a recent paper on asthma, Professor Dielafoy of Paris, recommended a cocaine application to the nose as the first step in the treatment. This is a wise suggestion, for if, as our *confrères*, the rhinologists, claim with some show of reason, nasal irritation may be the starting-point of an asthmatic paroxysm, the latter must surely be abated by inhibiting the sensitiveness of these spots. But here an error may creep in. It will not suffice simply to brush the nose with a two-per-cent. solution of cocaine. A bulb-pointed syringe or atomizer with numerous fine openings introduced just within the nostrils, would distribute half a drachm of a four-per-cent. solution of cocaine over the accessible portion of the nasal fossa. If the patient will press the bulb or piston of the syringe during expiration, hold his head downward and avoid swallowing the fluid, no possible harm can ensue, while complete anæsthesia of the entire nasal tract

would be attained. If an attack of asthma or neuralgia be averted by such anæsthesia the proof is clear. How many of our enthusiastic friends apply such a test or any other test in these cases? Except the *post hoc ergo propter hoc*, than which none is at times more misleading, we have in these tests a perfectly available method, which I trust will be more frequently resorted to, of discovering the actual connection between peripheral irritation and disease at a distance.

I am of the opinion that the so-called peripheral irritations should only be treated as etiological factors, if they manifest themselves to the patient.

This holds good, however, of all organs except the nose. The latter is, as the epithelium covering its lining mucous membrane indicates, a respiratory as well as an olfactory organ. As an olfactory organ its function may be greatly disturbed or entirely lost without actual damage to the economy. Even as a respiratory organ its functions may be interfered with, without much embarrassment, because the mouth furnishes a vicarious channel for the entrance of air; hence only when very positive stenosis exists does the system rebel and call the patient's attention to its presence, by embarrassment of the respiration or other symptoms. Sensitive areas, swollen and cavernous turbinated coverings, polypi, etc., may exist within the nose, as the cases I have cited witness, without being sufficiently recognized by the patient to call the physician's attention to them. It therefore becomes our duty to search for these abnormal conditions in all those functional nervous disturbances which have been reported as possibly connected

with nasal irritation. The tests I have referred to are then readily applied, and the treatment is rendered more effective and less difficult than in many other disturbances. A word of warning may, however, be not inopportune at this point. Operations on the nose are not so free from danger as they have often been represented by some enthusiastic specialists. I am personally cognizant of two cases, in which deviations of the septum were removed by the saw; one with serious, the other with fatal results. The first, operated on while apparently in good health, by one of the most noted rhinologists of the present time, suffered from hæmorrhages and septic fever, which seemed to be the starting-point of a state of cachexia lasting over a year, during which a malignant and fatal disease of the stomach developed. The second case, also in good health when operated on by one of our most active septum-sawers, whose skill cannot be impugned, awoke the night succeeding the operation with vomiting of blood and with epistaxis. He fell ill, and was attended for three weeks by no less than eleven physicians and surgeons. When I took charge of him, the gentleman who had operated gave an obscure history in the patient of feeble heart, loss of appetite, and great apprehension of a fatal issue. I found the urine had been reduced below 20 ounces daily, without microscopic or other evidence of renal disease. An unfavorable prognosis was given. Dr. A. Jacobi, who had previously seen the patient, was called in consultation. The patient died thirty-six hours after I first saw him, simply from exhaustion due to loss of blood and subsequent inanition. A post-mortem discovered no trace of organic

disease. There is no doubt in my mind that this death was directly due to the operation for deviated septum, which had been properly and skilfully done, *for relief of embarrassment to respiration.*

When you are told, by our friends, the rhinologists, that the operation for deviated septum, if skilfully performed, is free from danger, bear in mind this testimony of a general practitioner, and let it not be done except for good cause.

In other organs the difficulty of discovering points of irritation is not so marked as in the nose, because interference with their functions becomes more or less burthensome, and in a large proportion of cases calls for remedy.

The eye, for instance, does not brook infringement upon its normal condition without protest—a protest which may or may not be heeded, according to the intelligence of the patient and his capacity for resisting encroachments upon normal functions. Here it is important to inquire cautiously for symptoms, lest by leading questions we be led astray. But here too the connections, if such exist, between peripheral irritation and the existing functional nervous disturbance may be traced, and it should be clearly traced ere the diagnosis is regarded as exact.

Surely nothing is easier for the general practitioner than the inquiry for eye-strain in connection with or independent of the attacks whose causative relations he is endeavoring to fathom. And, if he is in doubt, nothing is easier than to refer such a case to his friend the ophthalmologist. This has been my constant practice since it first suggested itself in my own case, which may be of interest in

this connection. Up to within nine years ago I was a martyr to migraine, suffering one or more attacks weekly, which disabled me from work. Although I was conscious of a difference in the refraction of my eyes, I was assured by two eminent oculists that the difficulty was a simple myopia affecting the right eye, with which it was not advisable to meddle. On coming to New York and taking a course of instruction on the eye and ear, I discovered a double astigmatism. Dr. R. H. Derby was kind enough to make a thorough examination of the refraction under homatropine, by which he discovered a high degree of myopic astigmatism in the right and a minor degree in the left eye. The correction of the error of refraction not only endowed me with perfect vision, but the agreeable discovery that the migraine was removed was an additional and unexpected result. Not a single attack has occurred since the glasses were adjusted.

If we do not succeed in relieving the patient of the functional nervous disease for which the ophthalmic examination was advised, we may at least be content that no damage has been inflicted by the correction of any error of refraction that may have caused distress from eye-strain.

This is quite a different matter, however, from the mutilations which have been recently recommended by some of our *confrères*. The mournful record of these mutilated eyes and disappointed patients is indeed, as has been remarked by another, a sad chapter in the history of this subject. The fact that the novel view that "asthenopia," from which

nervous diseases of all kinds are now said to result, "is chiefly dependent upon muscular insufficiencies, and is generally to be relieved by operations upon these muscles," is entertained and urged by only a very small number of men who stand alone in this country, and that this idea has not received the slightest recognition in Europe, where the opportunities for testing its correctness are so abundant, appeals to the general practitioner as a cogent reason against its acceptance. The Neurological Society of this city has fairly weighed the arguments advanced by these innovators, and now Dr. Roosa has added one of those valuable practical observations, of which he is so admirable an adept, which must remove the question from the arena of discussion. He has shown us that, among over one hundred healthy persons, 84 per cent. presented a want of muscular equilibrium, so-called heterophoria, and that, moreover, a great deal depends, as has been well-known since Graefe's time, upon uncorrected astigmatism. I was somewhat surprised that Dr. Roosa deemed the refutation of this novel and unsubstantiated theory a cause worthy of his steel. But he has offered us a clinching argument which must lay this all too lively ghost to everlasting rest.

From a therapeutic standpoint the eye as a source of peripheral irritation demands as careful and painstaking investigation as the nose. I am convinced that both promise satisfactory therapeutic results. But our efforts must not be indiscriminate. *Ni nocuisse* should be our motto so long as uncertainty haunts our course. Fortunately we have in these

organs means for ascertaining positively the existence of points of peripheral irritation and of remedying them harmlessly. I plead for the more general adoption of these tests before active treatment is adopted.

The sexual organs as sources of peripheral irritation have been ably discussed from the gynecological standpoint.

From a therapeutic standpoint I desire simply to plead for the same principles that I have enunciated regarding the eye and nose. Here, however, we meet greater difficulties. The male genital organs are more accessible to investigation and treatment than those of the opposite sex. Alexander Peyer, our own Otis, and many others have studied this subject from the specialist's point of view. They have offered us clinical data which cannot be controverted. But let us proceed cautiously, and always bear in mind the motto, "*Nil nocuisse.*" Mutilation of these important organs must be avoided, unless the existence of a point of peripheral irritation is clearly established. We have no tests here as we have in the nose and eye, so every other means must be exhausted before local surgical treatment is resorted to. Another point of therapeutic importance is to be remembered, viz., the danger of directing the patient's attention to the sexual organs as a possible cause of his functional troubles. Such a course is almost certain to increase the latter.

The existence of peripheral irritation in the utero-ovarian system has long been a vexed question. While I am convinced that a lacerated cervix is frequently an etiological factor of pronounced type,

and while I regard the removal of the local pathological conditions connected with the latter as a *sine qua non* to the improvement of the health of many suffering women, I am also convinced that these lesions rarely if ever give rise to the reflex functional nervous troubles that have been attributed to them. The latter may almost invariably be traced to conditions of general ill health and anæmia, resulting from the local processes which give rise to muco-purulent discharges, to infection from raw surfaces on the cervix, and to interference by pain with comfortable locomotion, rather than to the pressure of cicatricial plugs, etc. These views I have fully set forth in a paper on the therapeutic significance of the cervical follicles,¹ and I must now be content with this simple reference to a subject which has given rise to more acrimonious and bootless discussion than even the insufficiencies of the ocular muscles.

The idea of the connection of ovarian irritation with functional nervous diseases is coeval with the history of medicine. Since gynecology has become a full-fledged offspring of medicine this question has persistently clamored for solution. There has been so wide a schism in the ranks of the special worker in this branch, a schism which is happily narrowing to a more conservative point in recent years, that a general practitioner may well be excused from expressing his views, except to urge respectfully the warning, "*Nil nocuisse.*" I have searched the literature of this subject industriously for the clin-

¹ New York Medical Journal, June and July, 1885.

ical proof that the removal of the uterine appendages has been instrumental in removing pronounced functional nervous diseases. While I am convinced that the ablation of *diseased* ovaries and tubes must and does contribute to the improvement of health in some women by removing foci of infection, distress, and pain, and by removing a barrier to exercise and to the pursuit of the duties of life, I cannot bring myself to the belief that the removal of ovaries or tubes not presenting palpable and well-defined pathological changes is ever called for; and I deem such a procedure an outrageous violation of the highest aims of our calling, which demands the condemnation of every decent physician.

There are many other points of peripheral irritation whose relation to disease demands discussion. As one speaker has referred somewhat contemptuously to peripheral irritation as productive of nervous diseases, it may be well to mention that we have the authority of Professor Thomsen, of Berlin, for the statement that even serious psychoses may be traced to peripheral irritation. In the *Charité Annalen* for 1888 he gives the histories of five cases of reflex psychoses resulting from wounds of the head, with concentric narrowing of the field of vision and unilateral hallucinations; and two other cases in which scars in the periphery produced epileptic attacks, and later also psychoses, which were cured by excision of the scars. All these patients suffered anæsthesia or hyperæsthesia, and in all the extent of the field of vision was an index to the amount of the psychical disturbance.

The relation of peripheral irritations existing in the gastro-intestinal tract to diseases elsewhere, has been recognized from the earliest time of medicine as an empirical observation, by which the harmful practice of indiscriminate purging has been upheld. Our literature abounds in well-defined clinical evidence upon this subject. Among the most recent and interesting observations I find one which in this day of over-zealous specialism may serve as an illustration of scientific conservatism. Professor Gussenbauer has published¹ twenty-eight cases of intermittent trigeminal neuralgia, which were referred to him for surgical treatment, and among which he found only four that required surgical interference. The remaining twenty-four yielded to careful attention to existing intestinal torpor. Some of our enthusiastic specialists would do well to emulate the example of this conservative surgeon and ponder well and long ere they inflict lasting deformities upon the patients committed to their care.

Nothnagel has clearly shown in his *Klinik für Darmkrankheiten* that intestinal activity depends upon the functioning capacity of the intestinal glands, and that many cases of constipation may be traced to the diminution of automatic action in the nervous apparatus of the intestines. That pathological changes in the ganglia of the intestinal muscles, producing constipation, may convey nervous impulses through the sympathetic to the

¹ Prager medicinische Wochenschrift, No. 3, 1886.

cerebro spinal system, and then produce abnormal sensations, has been often practically demonstrated.

Nothnagel believes that hemicrania from constipation is due to a venous stasis in the intestines, which impairs the functions of the latter by reason of an insufficient supply of oxygen, so that intestinal irritability or automatic activity is diminished. The latter produces abnormal excitation of the cerebro-spinal system, resulting in an irritation or paresis of the vaso-constrictor fibres of the cervical sympathetic, which in turn produces the vaso-motor phenomena of hemicrania.

Sciatica, formerly supposed to be due to pressure from faecal masses in the sigmoid flexure, may be similarly explained. This brief reference is made in order to illustrate that many functional nervous conditions may be removed by the old-fashioned and rationally explicable treatment of constipation, and to emphasize thereby the lesson that careful and industrious search for foci of peripheral irritation should be made *in every direction* before the eyes and nose, the urethra, or worst of all the uterus and ovaries are attacked and mutilated.

In conclusion, permit a general practitioner who has endeavored by many years' service in the eye, ear, throat and gynecological departments of our city dispensaries, and by industrious attendance upon the clinics of our metropolitan hospitals, to keep himself abreast of the advances of special departments in medicine, to sum up his views on the therapeutic significance of peripheral irritations, as follows:

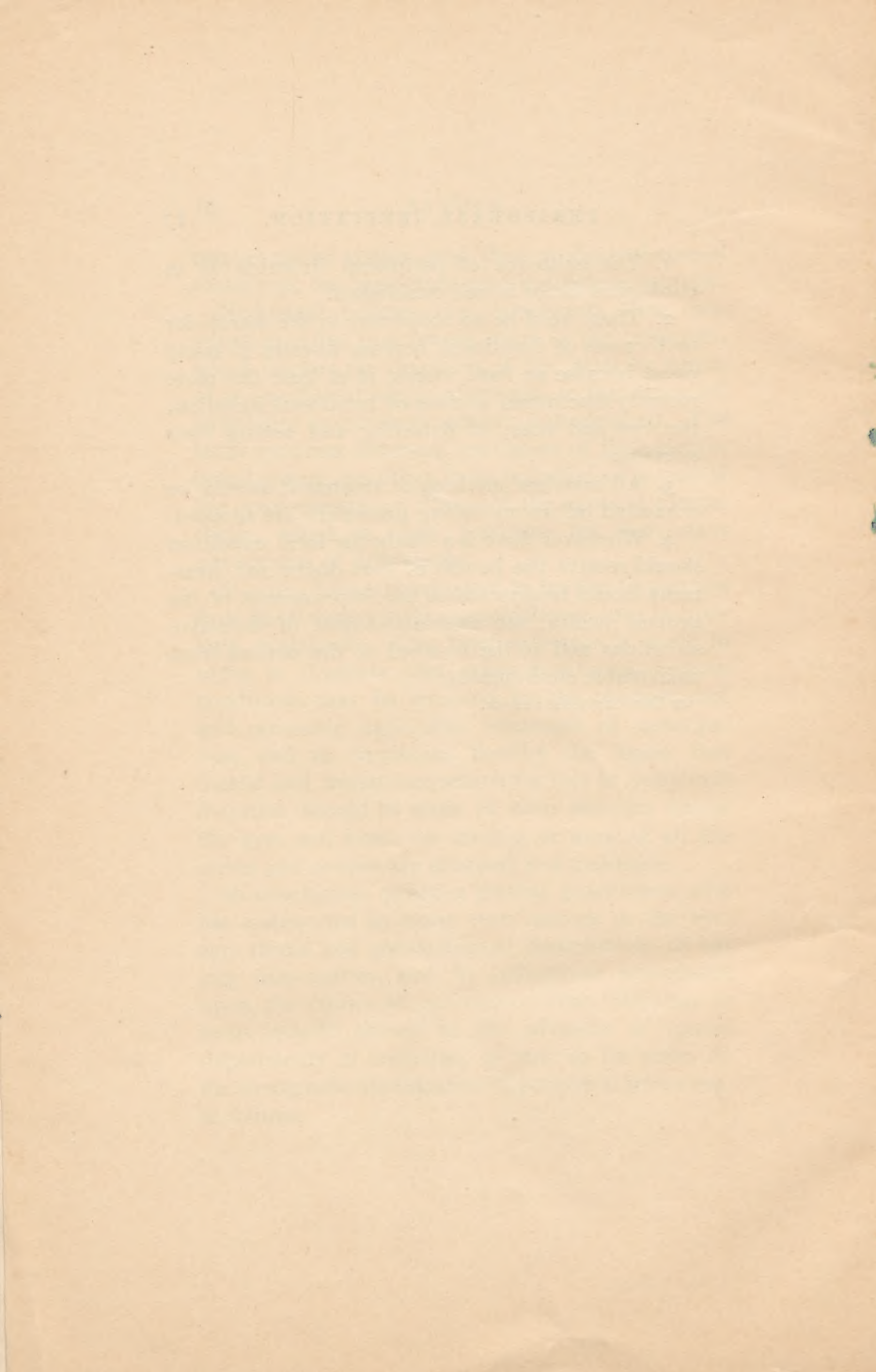
1. The existence of peripheral irritation as an etiological factor is well established.

2. There need be no conjecture in the search for such causes of functional nervous diseases in many cases, because we have means, in at least the more recently discovered sources of peripheral irritation, the eye and nose, of detecting and testing their existence.

3. All harmless methods of treatment should be exhausted before mutilating procedures are adopted.

4. Whenever there is a doubt the local condition should receive the benefit of that doubt and treatment should be directed to the improvement of the general health, the re-establishment of defective secretions and to the removal of the patient from unfavorable environment.

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